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S/126/61/011/004/016/023
E193/E483

The Effect of the Grain ...

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Science of Metals and Physics of Metals, TsNIIChM)

SUBMITTED: August 26, 1960

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The Effect of the Grain ...

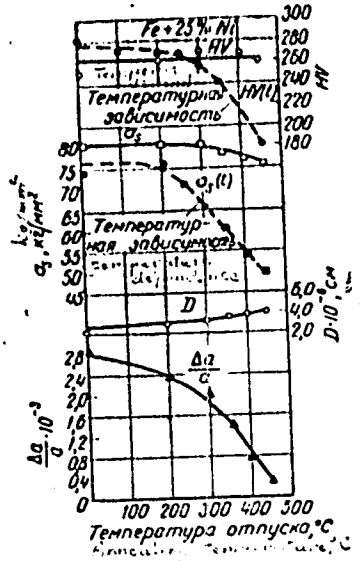

Fig.1.

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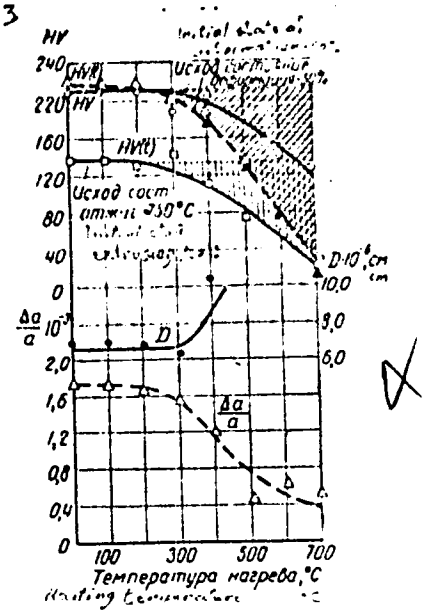

Fig.4.

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E193/E483

188200 1418,1555

AUTHORS: Kardonskiy, V.M., Kurdyumov, G.V. and Perkas, M.D.

TITLE: The Effect of the Grain Substructure and Crystal Properties on Strength. II. Iron and Nickel

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.11, No.4, pp.615-619

TEXT: The object of the present investigation was to obtain additional experimental evidence on the relative part played in increasing the strength of metals by the variation of the crystal structure and by the changes in other properties of crystals. Nickel and iron were chosen as the experimental materials because of the different temperature dependence of their yield points below 20°C. In the first series of experiments, Vickers hardness HV and the width B of the (220) lines of iron were measured after various thermal and mechanical treatments. After 1 h annealing at 750°C, HV and B (measured at 20°C) were 65 kg/mm^2 and 11×10^{-3} radians respectively; on lowering the temperature to -180°C, HV increased to 185, but B remained practically unchanged. The specimen was then deformed plastically (30% compression) at -180°C, after which HV (measured at this

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temperature) was 220 kg/mm^2, and B increased to 31 x 10^{-3} radians. After heating to 20°C, B of this specimen decreased to 22 x 10^{-3} radians and HV to 98 kg/mm^2. When the specimen was cooled again to -180°C, hardness increased back to 220 kg/mm^2 but B remained unchanged. These results indicated that an increase in hardness (strength) can be caused either by the variation of the crystal properties alone (the increase in HV after cooling to -180°C was not accompanied by any change of B) or by the change of the grain substructure (the increase in HV due to plastic deformation was accompanied by an increase in B). In this connection, the authors point out that when an annealed Fe specimen was compressed at 20°C to 30% deformation, its HV increased from 63 to 85 kg/mm^2 and B from 11 x 10^{-3} to 19 x 10^{-3} radians; after cooling to -180°C, HV increased to 200 kg/mm^2. The relatively higher increase in HV after plastic deformation at -180°C (see above) was attributed to a higher degree of dispersion of the grain substructure, formed at this temperature. A series of similar experiments was conducted on nickel. It was found that, in contrast to iron, HV of annealed Ni cooled to -180°C increased only by ΔHV = 15 kg/mm^2; plastic

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deformation of Ni at -180°C brought about an increase in HV from 65 to 160 kg/mm^2, and increased B from 11.4 x 10^{-3} to 23.9 x 10^{-3} radians; after heating to room temperature, HV decreased to 140 kg/mm^2, B remained practically unchanged; after repeated cooling to -180°C, HV increased to 160 kg/mm^2. Thus, it was shown that in the case of nickel, whose crystal properties change very little on cooling, the distortions of the second type (caused by plastic deformation at -180°C) remain practically unchanged after heating to 20°C. The increase in HV of nickel due to plastic deformation at 20°C was also lower than that attained at -180°C. This is illustrated in Fig.5, where HV of nickel (left-hand scale) and the size of mosaic blocks (D, 10^{-6} cm, right-hand scale) are plotted against the degree of plastic deformation (%) at room temperature (broken curves) and at -180°C (continuous curves). The results obtained illustrated clearly the difference in the effect of a decrease in temperature on strength of iron and nickel. The strength (hardness) of Fe rapidly increases with decreasing temperature, and the increase in strength due to deformation at -180°C is mainly associated with the change in the crystal properties, the change in the crystal

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substructure playing a relatively small part. In the case of Ni, the part played by the variation of the crystal properties is small in comparison with that played by the formation of submicroscopically heterogeneous structure. In both cases, however, the effect of these two factors is additive. There are 5 figures and 7 references: 5 Soviet and 2 non-Soviet.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Science of Metals and Physics of Metals, TsNIIChM)

SUBMITTED: August 26, 1960

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The Effect of the Grain ...

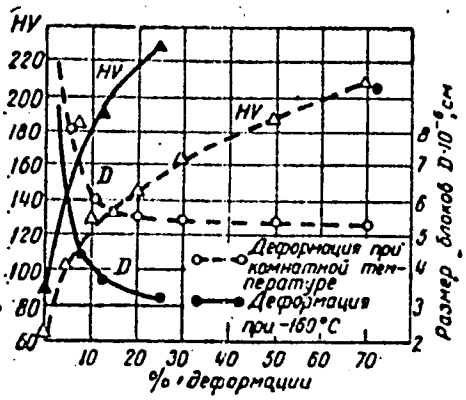

Fig.5.

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PERKAS, M. D.

18(0) PHASE I BOOK EXPLOITATION SOV/2125

Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
Institut Metallovedeniya i fiziki metallov

Problemy metallovedeniya i fiziki metallov (Problems in Physical Metallurgy and Metallophysics) Moscow, Metallurgizdat, 1959. 340 p. (Series: Its: Sbornik trudov, 6) Errata slip inserted. 3,600 copies printed.

Additional Sponsoring Agency: USSR. Gosudarstvennaya planova komissiya.

Ed. of Publishing House: Ya.N. Darkin; Tech. Ed.: P.G. Islent'yeva; Editorial Board: D.S. Kamenetskaya, B.Ya. Lyubov (Resp. Ed.), Ye.Z. Spektor, L.M. Utevskiy, L.A. Shvartsman, and V.I. Malkin.

PURPOSE: This book is intended for metallurgists, metallurgical engineers, and specialists in the physics of metals.

COVERAGE: The papers in this collection present the results of investigations conducted between 1954 and 1956. Subjects

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covered include crystallization of metals, physical methods of influencing the processes of crystallization, problems in the physical chemistry of metallurgical processes, development of new methods and equipment for investigating metals, and production control. References follow each article.

TABLE OF CONTENTS:

PART III. METHODS AND EQUIPMENT

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

KARDONSKIY, V.M.; PERKAS, M.D.

X-ray camera with a mechanism for tensile testing of the specimen. Zav. lab. 25 no.2:236-237 '59. (MIRA 12:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Metals--Testing) (X rays--Equipment and supplies)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

24(4)
AUTHORS: Kardonskiy, V. M., Perkas, M. D. SOV/32-25-2-59/78

TITLE: An X-Ray Camera With a Device for Stretching the Sample (Rentgenovskaya kamera s mekhanizmom dlya rastyazheniya obraztsa)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 2, pp 236-237 (USSR)

ABSTRACT: The apparatus described (Fig 1) makes it possible to observe the changes in the crystalline structures of metals during a straining test within the limits of elasticity and plasticity. The apparatus consists, basically, of an X-ray camera to which a device for stretching the sample is attached. The changes occurring during the straining test are observed by means of a microscope and may be seen in the shifting of the calibration lines on an indicator. The sample itself (Fig 2) has a special shape - spherical heads - which prevents their being distorted during the test. The indicator is calibrated to tension loads of 1 kg, the maximum load being 200 kg. It can be seen from the radiogram (Fig 3) of an alloy (Fe + 4.75% Si) obtained by means of a tube developed by B. Ya. Pines (FeKa) that the reflexes

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are blurred as the tension increases (0, 12, 23 and 27 kg/squ.mm, and σ_B = 40 kg/squ. mm respectively). From this blurring the angular characteristics of the grain disorientation can be calculated so that a relation between the disorientation angle and the strain and distortion of the sample can be found. There are 3 figures.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)

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24(2) SOV/53-67-4-3/7

AUTHORS: Nadgornyy, E. M., Osip'yan, Yu. A., Perkas, M. D., Rozenberg, V. M.

TITLE: Thread-shaped Crystals With a Strength That Is Near Theoretical Strength (Nitevidnyye kristally s prochnost'yu, blizkoy k teoreticheskoy)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 625-662 (USSR)

ABSTRACT: The present paper gives a survey of results obtained (especially by papers published in Westernperiodicals) concerning the properties and the growth of the so-called "whiskers", i.e. thread-shaped crystals, which, as regards order of magnitude, are 10^3 times as long as thick. The strength of these crystals surpasses that of ordinary crystals of the same substance by 10 to 100 times their amount and attains values that are near those calculated on the basis of the forces of interatomic interaction. Special interest is further caused by investigations of electric resistance (especially at low temperatures), of the domain structure of the ferromagnetic crystals, as well as of photoelectric and optical quantities. The present paper presents a clear survey of what

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has hitherto been achieved. Part I of the paper gives details (with numerous figures) concerning the formation, orientation, and shape of the whiskers; breeding by the regeneration of metals from their salts, and breeding by means of condensation from vapors, and other methods are described, as also the production of nonmetallic whiskers; a number of photographs shows the shape and growth of copper- and tin-whiskers considerably enlarged (up to 9000 times). Part II contains a very vivid description of the growth of such crystals as well as data concerning a large number of papers, which are given in a table covering two pages. Part III deals with experiments and results concerning the mechanical properties of the whiskers; among other things, experimental data on the deformation of whiskers are compared with those of ordinary crystals; the tearing of these whiskers with as well as without previous plastic deformation is investigated and described in diagrams. The creeping of metallic whiskers is described (also the creeping resistance of whiskers is considerably greater than that of ordinary crystals of the same material). Finally, the influence exercised by temperature and by the dimensions of whiskers on their strength is described as also the influence

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exercised by surface properties upon strength. Also the recovering of whiskers is demonstrated on the basis of figures 31 and 32 (altogether 10 photographs). Finally, other properties of whiskers are discussed in short (part IV). There are 33 figures, 5 tables, and 81 references, 6 of which are Soviet.

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Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 233 (USSR)

AUTHORS: Perkas, M.D., Shamov, A.Ye.

TITLE: A Study of the Solubility of Carbides in Gamma Iron by Measurement of the Width of an Interference Line (Izucheniye rastvorimosti karbidov v γ-zheleze metodom izmereniya shiriny interferentsionnoy linii)

PERIODICAL: Tr. Kuybyshevsk. inzh.-stroit. in-t, 1957, Nr 4, pp 177-183

ABSTRACT: An investigation is made of mild steel with 0.1% C and alloy steels with 6 and 11% Cr, 0.5 Ti, or 1.16% Nb, and also of multiple-alloy steel with 0.67% Ti and 5.7% Ni, 1.45% Cr and 0.83% V, 1.48% Mn and 1.4% V. To dissolve the carbides (Cb) in the γ phase, the specimens are heated to 850-1300° and hardened in a 10% aqueous solution of NaOH. The X-rays are taken by the back reflection method, Cr radiation being employed. An expression is found for the relationship between the width of the (211) line to the temperature at which the steel is

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A Study of the Solubility of Carbides in Gamma Iron (cont.)

hardened. It is shown that as the Cr contents of the steel increase the temperature of onset of dissolution of the Cr Cb in the γ phase rises. The subsequent process of dissolution of Cb of high-chromium steels proceeds more intensively than in steels containing little Cr. Data are obtained descriptive of the differing effects of alloying elements upon the solubility of Cb in austenite. It is shown that the taking of an X-ray of a specimen in which all the C is in the ferrite and X-rays of the specimens under investigation permits determination of the solubility of Cb in the γ phase by line width.

L.M.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

SOV/137-58-8-17729

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 219 (USSR)

AUTHORS: Golubkov, V. M., Il'ina, V. A., Kritskaya, V. K., Kurdyumov, G. V. Perkas, M. D.

TITLE: A Study of Physical Factors Determining the Hardening of Alloyed Fe (Izucheniye fizicheskikh faktorov, opredelyayushchikh uprochneniye legirovannogo zheleza)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr n. i. in ta chernoy metallurgii, 1958, Vol 5, pp 433-461

ABSTRACT: The dimensions of regions of coherent dispersion D, and the magnitude of distortions of type 2, $\Delta a/a$ in pure Fe and in its α-solid solutions with Ni, Mn, Cr Mo, V Co W Ti, Nb and Si were calculated by the width of the reflexes (110) and (220) obtained in FeK_α -irradiation and recorded on a URS-50I X-ray spectrometer; the specimens employed were cold-rolled with an 80% reduction and were also cut into pieces and subjected to quenching. In addition, static distortions $\sqrt{\overline{u_{st}^2}}$, and the characteristic temperature, θ were determined for the same annealed and deformed specimens by the changes in the intensity of spectra photographed under Mo

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A Study of Physical Factors Determining the Hardening of Alloyed Fe

irradiation at -183°C and at room temperature. Micromechanical tests were conducted concurrently on a model RF-2 machine, and tensile stress strain diagrams were plotted. Tables with values of D, $\Delta a/a$ $\sqrt{\overline{u_{st}^2}}$ 0 σ_s, σ_b, and Hv are given. It is shown that the magnitudes of D (2.4x10^{-6} cm), $\sqrt{\overline{u_{st}^2}}$ ($\simeq$ 0.120 angstrom) and 0 were fairly close to common values for almost all alloys that had been deformed. The authors comment on the fluctuations of the $\Delta a/a$ value, which varies from 0.5 2.5x10^{-3} for different alloys and emphasize the correspondence which exists between its magnitude and the tensile strength characteristics of the deformed alloys. The difference in magnitudes of 0 and $\sqrt{u_{st}^2}$ of alloys in the annealed state is also pointed out. The mechanism of deformation and the effect of the factors indicated above on hardening of alloyed Fe are discussed. Bibliography: 37 references.

1. Iron alloys—Physical properties
2. Iron alloys—Hardening
3. Mathematics

A B

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

126-5-3-12/31

AUTHORS: Golubkov, V.M., Il'ina, V.A., Kritskaya, V.K., Kurdyumov, G. V. and Perkas, M.D.

TITLE: Study of the Physical Factors which Determine the Hardening of Alloyed Iron (Izucheniye fizicheskikh faktorov, opredelyayushchikh uprochneniye legirovannogo zheleza)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 5, Nr 3, pp 465-483 (USSR)

ABSTRACT: This paper is devoted to the study of the physical factors which determine the hardening of α-iron alloyed with various elements; considering only hardening which is due fully to changes in the fine structure of the α-solid solution without any changes in its chemical composition. In the experiments iron was used alloyed with various elements; the chemical compositions of the respective binary alloys of iron are entered in Table 1, p.465. The material was produced in a high frequency furnace with ingot weights of 25 kg. All the ingots were subjected to diffusion annealing at 1200°C for twenty hours. After homogenization annealing, the ingots were forged to a square 50 x 50 mm. After forging most of the ingots were annealed for the purpose of obtaining a uniform grain size. After forging and annealing, the

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

blanks were cold rolled with a total reduction of 80% and from the produced strips flat specimens were cut which were used for measuring the hardness and also for micro-mechanical investigations. The alloys Fe + 3% Mn, Fe + 4% Ni, Fe + 8% Cr were also hardened by quenching in a 10% NaOH solution after the specimens have been heated in a salt bath to 1000°C. The alloys Fe + 3% Mn, Fe + 0.5% Ti, Fe + 0.6% W and non-alloyed iron were also used for studying the influence of step-wise deformation on the changes in the characteristics of the fine structure. Specimens with initial dimensions of 70 x 15 x 8 mm were deformed in the cold state (on a laboratory rolling stand) with reductions of 5, 10, 15, 20, 30, 50, 80 and 90%. The characteristic of the fine structure was also studied on filings obtained from the alloys Fe + 1.84% Co, Fe + 1.8% Mo, Fe + 2.28% V, Fe + 3% Mn, Fe + 4% Ni, Fe + 8% Cr. Distortions of the third type and the characteristic temperature were determined predominantly on specimens produced from powders. The fundamental

 methods of studying the influence of alloying elements on

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

the hardening of the ferrite were: X-ray structural analysis and mechanical tests. The authors investigated the relation between the fine crystalline structure of α-iron base solid solutions in the work hardened state and also some of the mechanical properties of these alloys. Hardening of the alloys was achieved by cold plastic deformation as a result of the martensitic γ to α transformation mechanism. For changing the properties of the crystals of α-iron in the micro and sub-micro ranges (properties of the crystal lattice of the α-solid solution), the iron was alloyed by various elements, namely: Si, Ti, V, Cr, Mn, Co, Ni, Nb, Mo, W. By means of X-ray structural methods the following properties of α-phase crystals were studied in the sub-micro regions: static lattice distortions caused by the presence of foreign atoms in the lattice; dynamic displacements of the atoms during thermal oscillations and the characteristic temperature; magnitude of the elastic deformation of the lattice caused by cold plastic deformation. As characteristics of the fine crystalline structure of the alloys in the hardened state the following were applied: size of the regions of the

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

coherent scattering of X-rays (mosaic block), distortions of the second type and of the third type. The mechanical properties of the micro-volumes were characterised by the hardness, the yield point and the strength values. The results led to the following conclusions:

1. A characteristic feature of alloys in the hardened state obtained by a high reduction in the cold state or as a result of the γ to α martensitic transformation is the low value of the regions of coherent scattering of X-rays. The size of these regions for all these alloys is within the limits of 200 to 400 Å. The observed difference in the size of the blocks is near to the limit of the error in measuring them. However, the strength characteristics change within wide limits on changing over from one alloy to another (hardness H_V between 172 and 340; σ_s between 54 and 113 kg/mm^2). Thus, the great difference in the resistance to deformation of various alloys in the hardened state cannot be attributed to changes in the sizes of the blocks.

Card 4/9 2. The presence of various elements in the solid solution

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

influences to a considerable extent the type II distortions (non-uniform micro-stresses) in deformed as well as in hardened alloys. A correspondence exists between the magnitude of these type II distortions and the strength values of alloys in the hardened state.

3. High degrees of plastic deformation bring about considerable type III distortions. In the investigated solid solutions considerable displacements of the atoms take place in alloys in the annealed state, which is caused by the presence in the atom lattice of dissolved elements; $\sqrt{\bar{u}^2_{cm}}$ varied between 0.058 and 0.120 Å ($\bar{u}^2_{cm}$ being the magnitude of the static displacements of the atoms). After deformation with a high degree of reduction in the cold state (filings) the magnitude of $\sqrt{\bar{u}^2_{cm}}$ increased approximately to the same level (about 0.100 to 0.120), which is near to the level of type III distortions in cold deformed non-alloyed iron. The higher the value of $\sqrt{\bar{u}^2_{cm}}$ for the

Card 5/9 "equilibrium" solid solution, the smaller was the change

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

in this magnitude as a result of the deformation.
4. After hardening of the alloyed iron to martensite, the magnitude of the static displacements did not increase. Thus, in alloys hardened by means of martensitic transformation no type III distortions occur, although the strength characteristics approach those of materials deformed in the cold state. This could be seen particularly clearly on specimens of pure iron, hardened to produce martensite. No type III distortions were detected and hardening, block sizes and type II distortions were on the same level as in the case of iron deformed in the cold state. Consequently, presence of type III distortions at least of a magnitude detected in measurements by means of intensive X-rays is not a necessary condition for obtaining a high resistance to deformation.
5. Investigation of the fine crystalline structure as a function of the degree of plastic deformation carried out on pure iron and on some solid solutions has shown that with increasing degree of deformation the hardness, the type II and type III distortions increase, whilst the sizes of the

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

Study of the Physical Factors which Determine the Hardening of Alloyed Iron

blocks decrease. These characteristics change most rapidly for low degrees of deformation; for deformations of 30 to 70% the change of these characteristics is slow. For higher degrees of deformation the speed of the change in the characteristics increases again. The behaviour of the metal in the case of very high degrees of plastic deformation requires further detailed investigation.

6. The obtained results permit the conclusion that breaking up of the regions of coherent scattering is a necessary condition for increasing the resistance to deformation of the metals (in the case of the "sliding" mechanism of plastic deformation). The differences in the absolute magnitudes of the characteristics of the resistance to deformation for various metals and solid solutions is due mainly to the differing properties of the crystals in the micro and sub-micro regions (character and force of the bond, static distortions and other deviations from the regular periodicity of the lattice) and not by changes in the size of these regions.

Card 7/9 The established correspondence between the resistance to

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

deformation and the magnitude of type II distortions should not be taken as an indication of the major role of these distortions from the point of view of hardening. It can be assumed that the magnitude of these distortions (non-uniform elastic deformations of the micro-regions) is itself due to the properties of the crystallites of the given material. From this point of view the magnitude of type II distortions serves as an evaluation of the limit of elastic deformation of the micro-regions and can be considered as being a definite characteristic of the properties of the crystallites of a given substance. It is also possible that the observed type II distortions influence the resistance to deformation causing an increase in the degree of deorientation of the blocks. The experimental data obtained in the here described work on the relation between the fine structure and the strength of a material permit establishing certain relations governing these phenomena and leads to a number of new problems, the elucidation of which by further experiments is important from the point of view of

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

126-5-3-12/31

understanding the nature of strength and hardening (work hardening) of metals and alloys.
There are 6 figures, 6 tables and 38 references, 29 of which are Soviet, 9 English.

ASSOCIATION: Institut metallovedeniya i fiziki metallov (TsNIIChM) (Institute of Metallography and Metal Physics TsNIIChM)

SUBMITTED: December 4, 1956

1. Iron alloys--Hardening 2. Iron alloys--Physical properties
3. Iron alloys--X-ray analysis 4. Iron alloys--Crystal structure

Card 9/9

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

L 20966-66 EWT(m)/EWA(d)/T/EWP(t) IJP(c) JD/HW
ACCESSION NR: AP5022578 UR/0129/65/000/009/0028/0032
620.17:669.15-194:669.24'28'25'295

AUTHOR: Perkas, M. D.

TITLE: Nature of the high ductility of maraging alloys

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 9, 1965, 28-32, and bottom half of insert facing p. 40

TOPIC TAGS: alloy, steel, maraging alloy, maraging steel, alloy property, steel property

ABSTRACT: Several maraging steels containing 8.0—17.9% Ni, 0.6—1.2% Ti, 0.1—0.9% Al, 0—5.25% Mo, 0—7.25% Co, and up to 4% Mn have been investigated. In the as-quenched condition, all the steels had roughly the same strength: 105—114 kg/mm^2. Aging increased the strength to 200—240 kg/mm^2, depending on composition. The optimal combination of strength and ductility was attained in steel containing 17.4% Ni, 0.8% Ti, 5.25% Mo, 6.9% Co, and 0.1% Al; this steel had a tensile strength of 210 kg/mm^2, a yield strength of 200 kg/mm^2, a reduction of area of 58%, an elongation of 10%, and a notch toughness of 6.5 mkg/cm^2. A steel containing 4% Mo, 0.1% Al, and 12% Ni had a strength of 240 kg/mm^2, but an elongation of 8% and

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L 20966-66

ACCESSION NR: AP5022578

2

a notch toughness of 1.0 mkg/cm^2. The strengthening effect of aging is associated with the formation of NiAl and NiTi intermetallic compounds. The high ductility of maraging alloys is primarily due to the high ductility of its matrix; prior to aging the steels had a 70% reduction of area, a 14% elongation, and a 27 — 30 kgm/cm^2 notch toughness. The high notch toughness of unaged martensite begins to drop only at temperatures under -70C; this drop is particularly pronounced in alloys with high manganese and low nickel content. Aging of martensite lowers the notch toughness, but the transition of aged alloys into brittle behavior occurs at temperatures under -120C. The high ductility and low NDT temperature of the Fe-Ni-base alloys are explained by the presence of nickel, which stimulates the mobility of dislocations. Particles of the secondary phase in the matrix precipitated during aging prevent the migration of dislocations for an extended distance, but permit migration between the particles. This contributes to the alloy strength but decreases somewhat the ductility and notch toughness. Orig. art. has: 3 figures and 1 table. [ND]

ASSOCIATION: TsNIIChERMET

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 010 OTHER: 008 ATD PRESS: 4114

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

L 20629-66 EWP(k)/EWT(m)/T/EWP(e)/EWP(w)/EWP(t) IJP(c) JH/JD/HW

ACC NR: AP6010091 SOURCE CODE: UR/0129/66/000/003/0029/0032

AUTHOR: Borok, V. A.; Zaytseva, R. D.; Karpman, G. M.; Perkas, M. D.

ORG: TsNIIChERMET

TITLE: Strengthening and weakening of nickel alloys containing aluminum oxide

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1966, 29-32

TOPIC TAGS: nickel, nickel alloy, aluminum oxide containing alloy, alloy strengthening, alloy weakening, alloy hardness

ABSTRACT: Carbonyl nickel powder mixed with α-aluminum oxide or γ-aluminum oxide powder was compacted, sintered in a hydrogen atmosphere, and then extruded at 1050C. The obtained alloys of nickel with 0.5—7% γ-Al_2O_3 and nickel with 3.0% α-Al_2O_3 were tested for hardness and mechanical strength. Results of the tests showed that as the γ-Al_2O_3 content increased to 3 and 7%, the yield strength of extruded nickel increased to 29.4 and 40 kg/mm^2, respectively, compared to the yield strength of 18 kg/mm^2 for extruded nickel without γ-Al_2O_3 powder. The corresponding figures for the hardness were HRB 76, 87, and 45, respectively. Alpha-Al_2O_3, whether added as powder or formed from γ-Al_2O_3 with high-temperature annealing (above 1100C) of the nickel-γ-Al_2O_3 alloy, had only slight effect on the yield strength and hardness of the alloy. In nickel and its alloys with α-Al_2O_3, the hardness decreased after annealing at 400—600C, but in alloys with γ-Al_2O_3, the hardness sharply decreased

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L 20629-66

ACC NR: AP6010091

only after annealing at 1100C. This showed that dispersed inclusions of γ-Al_2O_3 significantly increased the temperature of the beginning of weakening of nickel. Nickel-γ-Al_2O_3 alloy cold-strained with a reduction of 80% has a much higher hardness than extruded alloys. However, the hardness of cold-strained alloys decreased sharply after annealing at 400—450C, and in extruded alloys, after annealing at above 1000C. This seems to confirm the assumption that a high cold reduction disrupts the bonds between the alloy base and γ-Al_2O_3 particles, as a result of which the weakening of the alloys with γ-Al_2O_3 proceeds as in alloys with α-Al_2O_3. With a lower cold reduction (20—30%), weakening of alloys with γ-Al_2O_3 begins at the same temperatures as in extruded alloys. The significant advantages of nickel alloys containing γ-Al_2O_3 inclusions become most pronounced in prolonged tests at high temperatures. The best results were obtained on an alloy containing 5% γ-Al_2O_3 which, under a stress of 3 kg/mm^2 at 800C, had a rupture life of 625 hr, i.e., 70 times longer than that of pure nickel. Orig. art. has: 4 figures. [MS]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 004/ ATD PRESS: 4224

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERPAR, M.; PERKAVAC, J.; BANIC, F.

Chromatography of saccharides on plates. Farmaceut vest 14 no.10/12:191-202 '63.

1. Chair of Organic Chemistry of the Faculty of Natural Sciences and Technology, University of Ljubljana, Ljubljana.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

GREKOV, D.I., inzh.; PERKATOV, A.I., inzh.; KITAYCHIK, V.A., inzh.; SEKRETAR', V.P., inzh.

Prospects of using synthetic materials in the manufacture of boilers. Teploenergetika 11 no.3:28-32 Mr '64. (MIRA 17:6)

1. TSentral'nyy kotloturbinnyy institut.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKAVAC, J.; PERŠAR, M.

Analysis of inks by means of paper and plate chromatography.
Kem ind 12 no. 11: 829-833 N '63.

1. Kemicni institut univerze v Ljubljanu, Laboratorij za organsko kemijo.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERNAVAC, J.; PERPAR, M.

Paper chromatography of reactive dyestuffs. Kem ind 13 no. 6: 404-408 Je '64.

1. Chemical Institute of the University of Ljubljana, Ljubljana.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

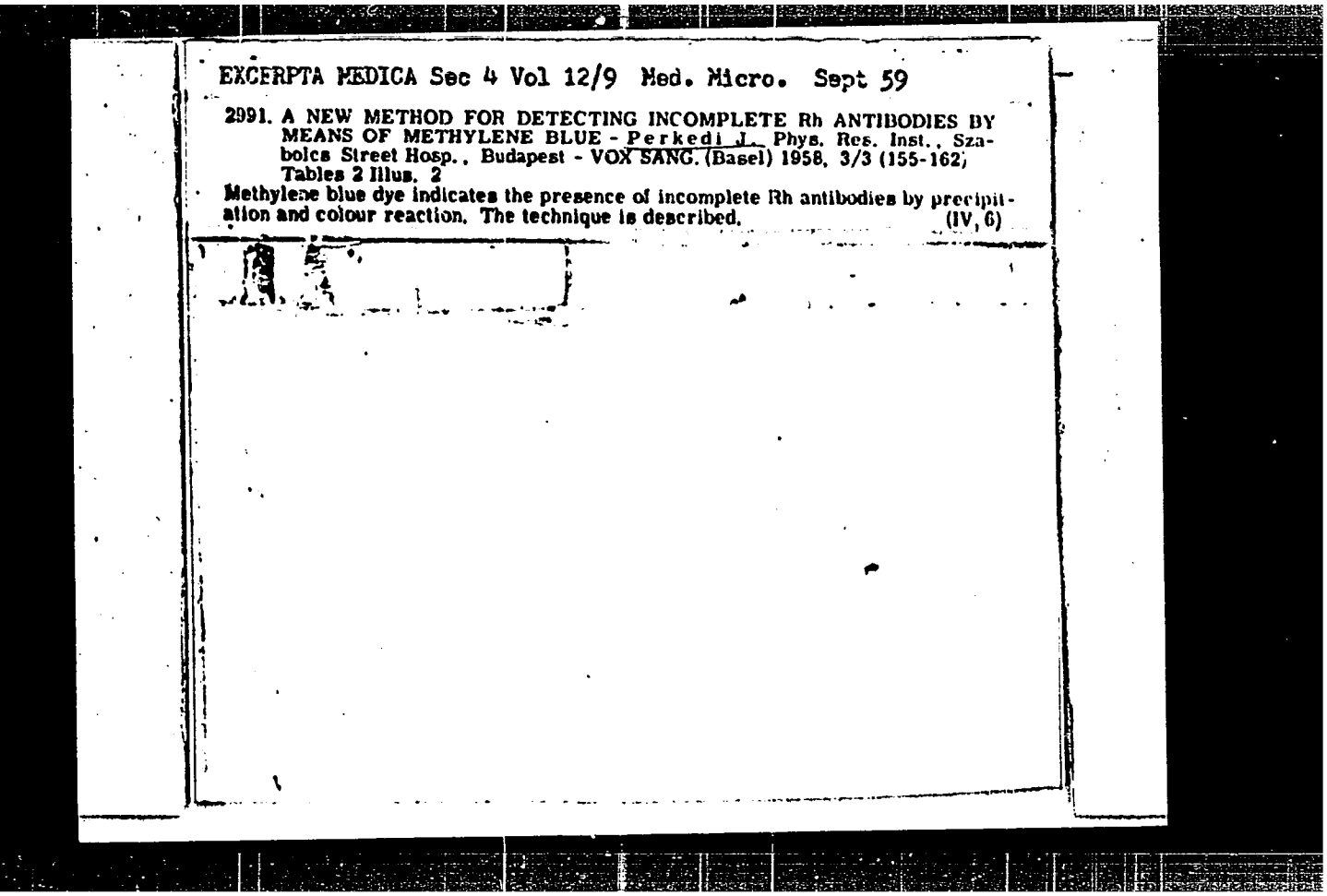
VALKO, D.; SAS, I.; PERKEDI, I.

Early diagnosis of pregnancy using the passive hemagglutination method. Akush. i gin. no.1:24-28 '65. (MIRA 18:10)

1. Otdel perelivaniya krovi Instituta usovershenstvovaniya vrachey, Budapesht.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2



EXCERPTA MEDICA Sec 4 Vol 12/9 Med. Micro. Sept 59

2991. A NEW METHOD FOR DETECTING INCOMPLETE Rh ANTIBODIES BY MEANS OF METHYLENE BLUE - Perkedi J. Phys. Res. Inst., Szabolcs Street Hosp., Budapest - VOX SANG. (Basel) 1958, 3/3 (155-162) Tables 2 Illus. 2

Methylene blue dye indicates the presence of incomplete Rh antibodies by precipitation and colour reaction. The technique is described. (IV, 6)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKEDI, Janos

New method for the detection of incomplete Rh antibodies with methylene blue dye. Kiserletes orvostud. 10 no.1:35-40 Feb 58.

1. Orvostovabbkepzo Intezet Verellato Osztalya.

(RH FACTORS
incomplete antibody detection by methylene blue test (Hun))
(METHYLENE BLUE
test in detection of incomplete Rh antibodies (Hun))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKEDI, J.

PERKEDI, J. Serological method for isolation and quantitative estimation of transfused erythrocytes. In English. p. 27.

Vol. 3, no. 1/2, 1955
ACTA MICROBIOLOGICA
SCIENCE
Budapest, Hungary

So: East European Accessions, Vol. 5, no. 5, May 1956

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

HUNGARY/Human and Animal Physiology (Normal and Pathological) T
Blood. Blood Groups.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26454

Author : Perkedi, Janos
Inst : -
Title : New Method of Detecting Incomplete Anti-Rhesus Antibodies by Methylene Blue.

Orig Pub : Kiserl. orvostud., 1958, 10, No 1, 35-40

Abstract : No abstract.

Card 1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

VALLO, Dezso, dr.; PERKEDI, Janos, dr.

The effect of dissolved blood group substrates on the results of immunohematological examinations done after the delivery of the fetus. Magy. noorv. lap. 26 no.3:135-138 My '63.

1. Orvostovabbkepzo Intezet Verellato Osztalyanak kozlemenye.
(BLOOD GROUPS) (EPISIOTOMY) (UMBILICAL CORD) (BLOOD)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

VALLO, Deszo, dr.; SZASZ, Ilma, dr.; PERKEDI, Janos, dr.

Immunological pregnancy test with Choriogonine immune serum.
Orv. hetil. 104 no.48:2278-2280 1 D '63.

1. Orvostovabbkepzo Intezet, Verellato Osztaly.
(GONADOTROPINS, CHORIONIC) (PREGNANCY TESTS)
(IMMUNE SERUMS)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKEDI, Janos, dr.; HORVATH, Endre, dr.; HOLLO, Tamas, dr.; VALLO, Dezso, dr.

Unusual amounts of a blood group substance in the blood serum of a newborn infant. Orv. hetil. 102 no.44:2075-2076 29 O '61.

1. Orvostovabbkepzo Intezet es Orszagos Verellato Szolgalat Kozponti Kutato Intezet.

(BLOOD GROUPS) (INFANT NEWBORN blood)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

VALLO, Dezso, dr.; PERKEDI, Janos, dr.

Obstetric aspects of Rh immunization. Magy. noorv. lap. 19 no. 5:311-315 Sept 56.

1. Az Orvostovabbkepzo Intezet (igaz. Doleschall, Frigyes, dr., az orvostudomanyok kandidatusa) Verellato Osztalyanak (foorvos: Vallo, Dezso, dr.) kozl.

(RH FACTORS
Rh immunization & incompatibility in preg. (Hun))
(PREGNANCY, blood in
Rh immunization & incompatibility (Hun))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

HORVATH, Endre; PERKEDI, Janos

An enzyme modification procedure with an object method. Kiserletes orvostud. 13 no.3:282-285 Je '61.

1. Orszagos Verellato Szolgalat Kozponti Kutato Intezetenek Immun Immunhaematologiai Osztalya es Orvostovabbkepzo Intezet Verellato Osztalya.

(BLOOD GROUPS) (ENZYMES pharmacol)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKEDI, O.

Transport by dumpers in the light of economic factors. In English. p. 413

PERIODICA POLYTECHNIKA. ENGINEERING. (Budapest Muszaki Egyetem.)
Budapest, Hungary. Vol. 2, no. 4, 1958.

Monthly list of East Accessions (EEAI) LC, vol. 8, no. 2, July 1959.

Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKEL', I.D.

Reinforced method of syphilis therapy according to data of the Institute M.S.Blavcha. Vest.vener. no.2:50-51 Mr-Ap '50. (CLML 19:3)

1. Odessa.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PA 233T8

USSR/Medicine - Tularemia Nicholas-Favre Disease Sep/Oct 52

"Concerning A. S. Shaverdov's Article, 'Does Inguinal Subacute Lymphogranulomatosis (Nicholas-Favre Disease) Exist as an Independent Nosological Entity of Venereal Origin?'" Prof I. D. Perkel, Dept of Syphilology, Odessa Skin and Venereal Diseases Inst imeni Clavche

"Vest Venerol i Dermatol" No 5, pp 40-42

Discusses the article by A. S. Shaverdov in "Vest Venerol i Dermatol" No 4, in which the author disputes the venereal origin of the Nicholas-Favre

233T8

PERKEL, I. D. Prof

disease and classifies it as a bubonic form of tularemia. Discarding this theory as lacking in scientific support, Prof Perkel' emphasizes the different causal organisms of these diseases, the differences in symptomology, incubation period, general clinical aspects, and prognosis, as well as the presence of strumous bubos characteristic of the Nicholas-Favre disease, and absent in cases of tularemia. Admitting that histopathological changes in the lymph vessels and lymph nodes closely resemble each other in both diseases, Perkel' states that there was no synchronization in the occurrence of tularemia and Nicholas-Favre disease during the Odessa epidemics of 1929 - 1933 (Nicholas-Favre disease) and 1949 (tularemia).

233T8

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKEL', I.D., professor; GUREVICH, Yu.K.

Late form of the fourth venereal disease complicated by cancer of the vulva. Vest.ven.i derm. no.5:55 S-O '53. (MLRA 6:12)

1. Iz Odesskogo dermato-venerologicheskogo instituta im. Ye.S.Glavche i Odesskogo oblastnogo vendispansera.
(Vulva--Cancer) (Venereal diseases)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

ZHURAVLEV, N.I., KAN'SHINA, N.F., NOVAKOVSKAYA, Ye.S. PERKEL', N.V.
RUBINSHTEYN, Yu.I. (Moskva)

Controversial aspects in the etiology of Kaschin-Beck disease.
Klin.med. 36 no.6:148-152 Je '58 (MIRA 11:7)
(ARTHRITIS, etiol. & pathogen.
deformans endemica (Rus))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERSH', N.V.

Toxicity of certain forms of Fusarium sporotrichiella isolated from grain in Eastern Siberia [with summary in English]. Vop.pit. 16 no.4:64-69 Jl-Ag '57. (MIRA 10:10)

1. Iz mikrobiologicheskoy laboratorii (zav. - prof. V.N.Azbelev) Instituta pitaniya AMN SSSR, Moskva.
(FUNGI,
Fusarium sporotrichiella from grain, tox. (Rus))
(GRAIN, microbiology,
Fusarium sporotrichiella, tox. (Rus))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

GOLOVKIN, N.A.; PERKEL', R.L.; STRAKHOVICH, K.K.

Methods for determining apple viability in case of cold storage. Izv. vys. ucheb. zav.; pishch. tekh. no.4:144-148 '63. (MIRA 16:11)

1. Leningradskiy tekhnologicheskiy institut kholodil'noy promyshlennosti, kafedra obshchey i kholodil'noy tekhnologii.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

S/196/62/000/003/006/012
E194/E155

AUTHOR: Perkhach, V.S.

TITLE: Overvoltages on single-pole short-circuits during the simultaneous transmission of electric power by a.c. and d.c. in common lines

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.3, 1962, 27, abstract 3 E205. (Nauchn. zap. L'vovsk. politekhn. in-t, no.76, 1960, 64-78)

TEXT: Results are given of model tests and calculations of the transient overvoltages that occur in the healthy phases during single-pole short-circuits in a three-phase a.c. transmission line with insulated neutral (without transmission of d.c. energy) and in the case when the neutral is connected to a rectifier and d.c. power is transmitted by the three phases with earth return. The calculations are made by the symmetrical component operator method for transients for an equivalent circuit of 2 U-shaped quadripoles and for circuits with distributed constants. The difference between the calculated and model test values of the first maxima are less than 10%; the difference is greater for

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

S/196/62/000/003/007/012
E194/E155

AUTHOR: Perkhach, V.S.

TITLE: Limiting overvoltages by arresters during single-pole short-circuits, during the simultaneous transmission of electric power by d.c. and a.c. in common lines

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.3, 1962, 27, abstract 3 E206. (Nauchn. zap. L'vovsk. politekhn. in-t, no.76, 1960, 79-89)

TEXT: Overvoltages determined by calculations and model tests are given when arresters without resistance are provided in the transformer neutrals in parallel with the d.c. rectifiers. When these break down, the system becomes one with solidly-earthed neutral. The maxima do not exceed $U_0 + U_{max}$, and the difference between calculated and model test values is 8%, furthermore the difference is greater than this. The arresters, of the protected gap type without resistance, reliably limit overvoltages during single-pole short-circuits under various conditions of simultaneous a.c. and d.c. transmission and under any circuit

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

S/196/62/000/003/008/012
E194/E155

AUTHOR: Perkhach, V.S.

TITLE: Overvoltages during the disconnection of 3-phase short-circuits during the simultaneous transmission of electric power by a.c. and d.c. on common lines and in a.c. transmission

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika no.3, 1962, 27-28, abstract 3 E207. (Nauchn. zap L'vovsk. politekhn. in-t, no.76, 1960, 90-99)

TEXT: An investigation is made of overvoltages when the phases are disconnected one at a time in the case of a three-pole short-circuit during simultaneous a.c. and d.c. transmission. Usually the overvoltages are no worse than in ordinary three-phase transmission. The conditions may, however, become worse (increased rate of rise recovery voltage and increased transient component of the voltage) if the circuit breaker extinguishes the arc after passing through a small half-wave of current (i.e. after a half-wave of power frequency

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKHALEV, M.

Using movable screens and PVU-1 pipes for ventilating grain on open floors. Muk.-elev. prom. 25 no.4:10 Ap '59. (MIRA 13:1)

1.Pavlodarskoye upravleniye khleboproduktov.
(Grain--Storage)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKHOMENKO, I. I. and GAVRILOVA, S. A.

"Organization of Geographical Bibliography in the USSR"

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKHUROV, N.V.

Improving the technology of casting box bodies. Lit. proizv. no.8: 32 Ag '62. (MIRA 15:11)
(Founding)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKHUROV, N.V.

Effect of manganese and sulfur content on the formation of hot cracks. Lit. proizv. no.4:45-46 Ap '62. (MIRA 15:4)
(Steel--Analysis) (Steel castings--Defects)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKHUROVA, A.I.

BERKHMAN, D.L., dotsent (Leningrad); ITSKINA, R.S. (Leningrad); KAZARNOVSKAYA, O.S. (Leningrad); PERKHUROVA, A.I. (Leningrad); ROTENFEL'D, M.Z. (Leningrad).

Treatment of tuberculous meningitis in adults. Klin.med. 31 no.12:31-36 D '53. (MLRA 7:1)

1. Iz tuberkuleznogo otdeleniya bol'nitsy im. Kuybysheva. (Tuberculosis) (Streptomycin) (Meningitis)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

ZSOLT, J.; PERKI, Maria; NOVAK, E.K.

Taxonomic studies on procandida albicans. I. Fermentation of sugars. Acta microbiol. acad. sci. Hung. 10 no.2:141-148 '63.

1. Institute of Plant Physiology (Director: I. Szalay), Jozsef Attila University, Szeged and State Institute of Hygiene (Director: T. Bakacs), Budapest.
(CANDIDA) (CARBOHYDRATES) (FERMENTATION) (CLASSIFICATION)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

HUNGARY

ZSOLT, Janos, PERKI, Maria, NOVAK, K. Ervin; Institute of Plant Physiology, Jozsef Attila University, Szeged (director of the institute: SZALAY, I.) and State Institute of Hygiene (director: BAKACS, T.), Budapest [original language versions not given].

"Taxonomic Studies on Procandida Albicans I. Fermentation of Sugars."

Budapest, Acta Microbiologica Academiae Scientiarum Hungaricae, Vol X, No 2, 1963, pages 141-148.

Abstract: [English article, authors' English summary] The fermentation reaction of 200 Procandida albicans (syn. Candida albicans) strains was examined with 6 different sugars. Glucose and maltose were rapidly fermented by all strains, while lactose and raffinose were not attacked. The galactose and sucrose fermentation varied from strain to strain and the reaction of the same strain often varied in simultaneous or repeated examinations. During the 30 day incubation period, 84 and 75 per cent of the strains fermented galactose and sucrose, respectively. As the standard identification methods always give the indicated results, the fermentation pattern symbol dgsm is recommended for a more objective characterization of Procandida albicans. The letters represent the fermented sugars (glucose, galactose, sucrose and maltose). The line under a letter indicates the stability of the corresponding property. 8 Hungarian, 3 Western references.

1/1

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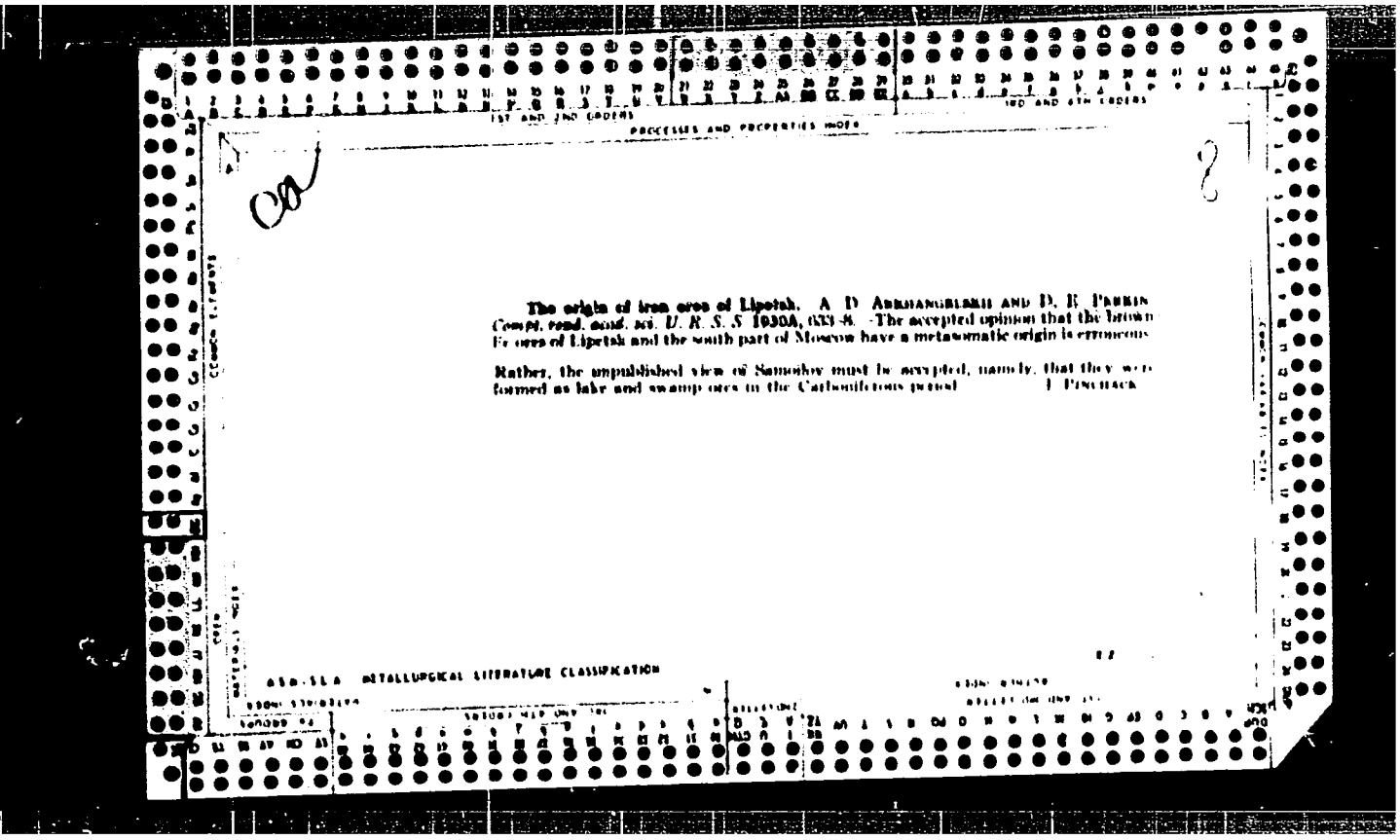

The origin of iron ores of Lipetsk. A. D. Arkhangelskii and D. E. Pavkin. *Compt. rend. acad. sci. U. R. S. S.* 1930A, 633-8.—The accepted opinion that the brown Fe ores of Lipetsk and the south part of Moscow have a metasomatic origin is erroneous.

Rather, the unpublished view of Samoilov must be accepted, namely, that they were formed as lake and swamp ores in the Carboniferous period. I. Puschnarew

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

MANEVICH, V.L.; PERKIN, E.M.

Primary cancer of the gall bladder and extrahepatic bile ducts. (MIRA 15:8)
Trudy TSIU 2:264-270 '61.
(GALL BLADDER--CANCER) (BILE DUCTS--CANCER)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

FUKS, B.I.; PERKIN, E.M.; KAN'SHINA, N.F.

Experimental histochemical analysis of the development of ischemic necrosis and a cicatrix of the myocardium. Dokl.AN SSSR 145 no.5:1154-1157 '62. (MIRA 15:8)

1. Novokuznetskiy institut usovershenstvovaniya vrachey i Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom N.N.Anichkovym.
(HEART--NECROSIS) (HISTOCHEMISTRY)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, B.M., aspirant

Operative cholangiography and its diagnostic value. Khirurgiia 35 no.4:20-25 Ap '59. (MIRA 12:8)

1. Iz 2-y kafedry klinicheskoy khirurgii (zav. - prof. B.K. Osipov) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. - prof. V.P.Lebedeva).
(CHOLANGIOGRAPHY
perop., diag. value (Rus))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

ZAK.Yu.I., dotsent; PERKIN, E.M., kand. med. nauk

Perforating cholecystitis. Trudy TSIU 66:188-192 '64. (MIRA 18:5)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, B.M., aspirant

Local anesthesia using A.V. Vishnevsky's method in the surgical treatment of acute cholecystitis [with summary in English]. Khirurgiia 34 no.6 75-78 Je '58 (MIRA 11:8)

1. Iz 2-y kafedry klinicheskoy khirurgii (zav. - prof. B.K. Osipov) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. - prof. V.P. Lebedeva).

(CHOLECYSTITIS, surgery
local anesth., method & results (Rus))
(ANESTHESIA, LOCAL,
in cholecystitis surg., method & results (Rus))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, E. M., Cand of Med Sci — (diss) "On the Clinic and Morphology of Acute Cholecystitis," Moscow, 1959, 14 pp (Central Institute for the Advanced Training of Physicians) (KL, 2-60,117)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, N.

USSR/Nuclear Physics - Atoms, Excitation of Oct 51

"Excitation of Atoms in Mercury Discharge," Yu. Kagan, N. Perkin

"Zhur Eskper i Teoret Fiz" Vol XXI, No 10, pp 1182-1183

Authors answer criticism of their article ("Iz Ak Nauk SSSR, Ser Fiz" 14, 1950) by Fabrikant and Yavorskiy (ibid. pp 1180, 1181) and emphasize that their theoretical curve of atomic concn is correct, despite objections by critics. They also deny having based their research on data by Fabrikant and Yavorskiy. Submitted 30 Jun 51.

PA 197T102

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, S. A.

"Problem of Agrochemical and Chemical Control of Wireworms," Dok. v-s Selkhoz. Nauk. Sel. Khoz., No. 5, 1948. Cand. Geol. Mineral Sci. All Union Inst. Plant Protection, -c1948-.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

KOSOLAPOV, I.I., inzh.; PERKIN, S.G., inzh.

New design of electric drives for remote control of fittings. (MIRA 11:11)
Elek.sta. 29 no.9:7-11 S '58.
(Electric driving) (Remote control)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, S.G.

KOSOLAPOV, N.M., inzhener; PERKIN, S.G., inzhener

Machine for cutting off and cleaning the ends of condenser tubes.
Energetik 3 no.8:18-19 Ag '55. (MLRA 8:10)
(Condensers (Steam)) (Metalworking machinery)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, S.G.

AID P - 3232

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 17/30

Authors : Kosolapov, I. M., and S. G. Perkin, Engs.

Title : Machine tool for cutting and trimming condenser tubes

Periodical : Energetik, 8, 18-19, Ag 1955

Abstract : The fitting of condenser tubes is according to the authors, one of the difficult tasks in mounting steam turbine condensers. A special tool machine was developed by the Leningrad Branch of the Experimental Design Office of the Main Administration of Industrial Power-Engineering Installations. Experimental samples of the machine were given field tests before starting serial production. The authors present a detailed description of the machine and its operation. Two drawings.

Institution : None

Submitted : No data

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

VOLYNOV, I. M., [illegible], I. [illegible], PERKIN, S.G.

Steam Pipes

Self-sealing plug for hydraulic testing of high-pressure pipes, Rab. energ. 2 no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, July 1952 Unclassified.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

KOSOLAPOV, I. I.; PERKIN, S. G.; Engs.

Steam Boilers

Repair of compression surfaces on manhole covers. Rab. energ. 3, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

KHOLODOV, V.N.; PERMIN, V.D.

Rare elements in phosphorite-bearing formations. Krat. soob. IMGRE no.1:87-88 '60. (MIRA 17:3)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

R[illegible]S, S.G.; PERMINA, L.L.

Hydrolysis of chlorobenzenesulfonic acid, a by-product of the DDT manufacture. Khim. prom. no.7:461-464 Jl '61. (MIRA 14:7)

(Benzenesulfonic acid)
(Hydrolysis)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

BUZAYEVA, A.I.; POLYAK, E.A.; PERKINA, A.S.; KOMANTSEVA, M.I.

Use of complexometric methods for determining the basic substance in chemical reagents. Prom. khim. reak. i osobo chist. veshch. no.1:22-24 '63. (MIRA 17:2)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

POLYAK, E.A.; PERMINA, L.S.

Determination of impurities in vanadium pentoxide. Zav.lab. 29 no.2: 161-162 '63. (MIRA 16:5)

1. Sverdlovskiy zavod khimicheskikh reaktivov.
(Vanadium oxides) (Metals—Analysis)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

S/032/63/029/002/007/028
B101/B186

AUTHORS: Polyak, E. A., and Perkina, L. S.

TITLE: Determination of impurities in vanadium pentoxide

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 161-162

TEXT: (1) Copper and cadmium were determined in vanadium pentoxide by twice precipitating the hydroxides in alkaline medium after adding 2 mg Fe as collector, dissolving the precipitate in hot HCl, and using polarography in the presence of NH_4OH excess. 0.001% Cu and Cd can be determined, the relative error being $\leq 10\%$. (2) Lead was analyzed polarographically without preliminary elimination of V(V), a 10% NaOH solution serving as background. The half-wave cycle of Pb is -0.80 v with respect to the saturated calomel electrode whereas the reduction of V(V) begins only at a much more negative potential. The disturbing effect of Cr(VI) is eliminated by adding NaF. (3) Fe is colorimetrically determined by the sulfosalicylate complex. Fe(III) is separated from V(V) in alkaline solution, $Cd(OH)_2$ serving as collector. $1 \cdot 10^{-4}$% Fe can be determined.

Card 1/2

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Determination of impurities in ...

(4) Zinc is determined by colorimetrically measuring its dithizon complex at pH 9-11. $2 \cdot 10^{-4}$% Zn can be determined.

ASSOCIATION: Sverdlovskiy zavod khimicheskikh reaktivov
(Sverdlovsk Plant of Chemical Reagents)

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

L 06589-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6029848 (A) SOURCE CODE: UR/0032/66/032/008/0907/0909

46
8

AUTHOR: Bondareva, T. N.; Shvarev, V. S.; Perkina, V. P.

ORG: Ural State University im.A.M.Gor'kiy (Ural'skiy gosudarstvennyy universitet)

TITLE: Photocolorimetric determination of cerium using phenylanthranilic acid

17

SOURCE: Zavodskaya laboratoriya, v. 32, no. 8, 1966, 907-909

TOPIC TAGS: colorimetric analysis, analytic chemistry, cerium, chemical composition, photochemistry

ABSTRACT: A photocalorimetric method of determining cerium contents in lanthanum oxide is described in detail. The method utilizes the phenylanthranilic acid as a complexing agent. The Ce(IV): phenylanthranilic acid ratio in the complex is constant and equal to 3:2. The molar extinction coefficient of this complex is $15.4 \cdot 10^3$. In essence, the method consists of dissolving of the lanthanum oxide sample in $1nH_2SO_4$ at pH = 3 followed by cerium extraction with a mixed solution of sodium diethyldithiocarbaminate in ethylacetate. The photocalorimetric determination of the complex was made with an FEK-N-57 spectrophotometer. It is claimed that the absolute accuracy of the analysis is equal to $1.6 \cdot 10^{-4}$% for samples containing 0.005% Ce and is equal to $1.2 \cdot 10^{-2}$% for samples containing 0.2% Ce. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 07/ SUBM DATE: 00/ ORIG REF: 007/ OTH REF: 002

Card 1/1 UDC: 543.7

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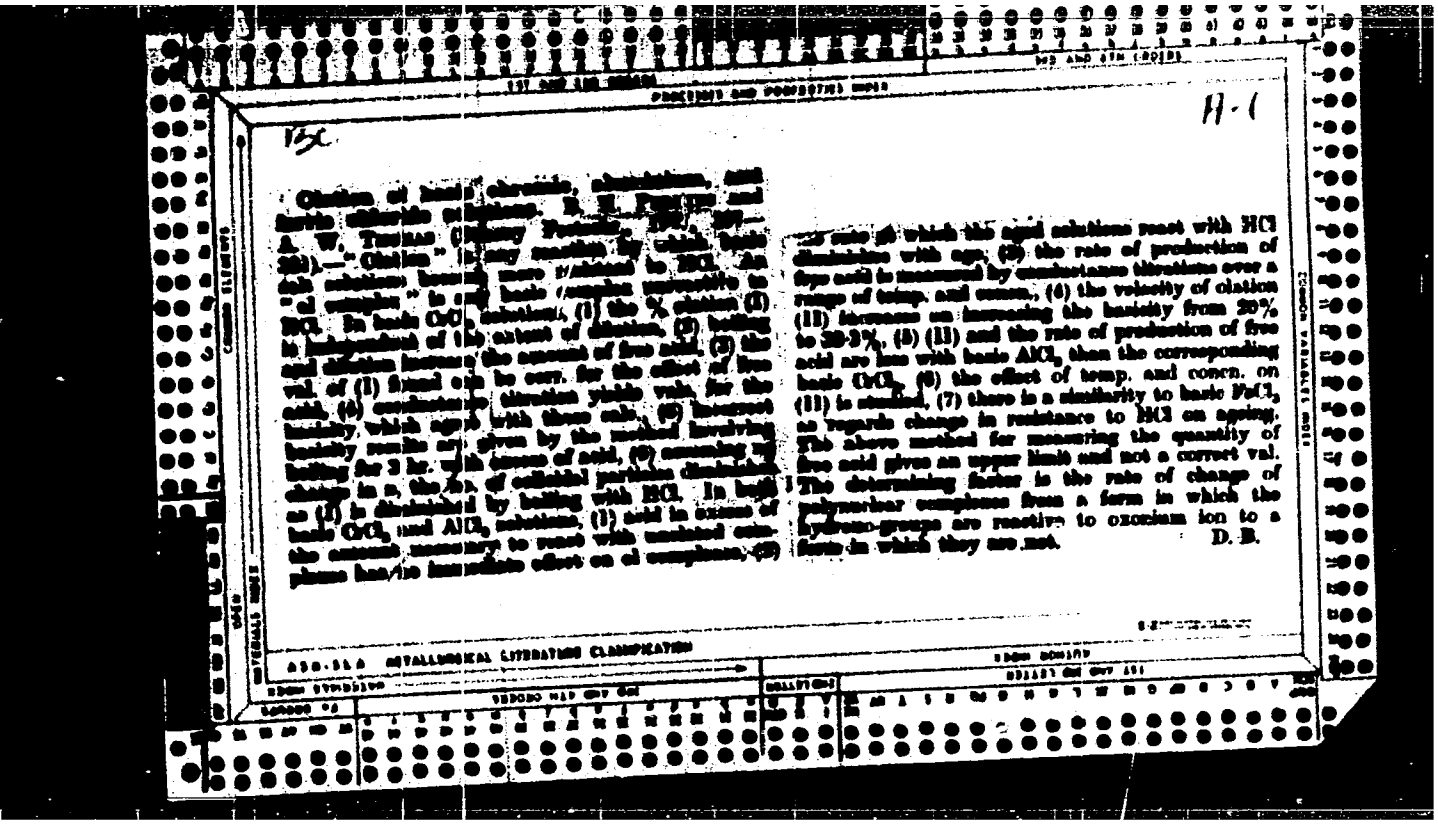

D. B.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

1. DANIYEL, R.R.; DAVIYES, J.H.; MALVEY, J.H.; PERKINS, D.H.

2. USSR (600)

4. Collisions (Nuclear Physics)

7. High energy nuclear meractions. Part 1. Evidences of the formation of heavy measons, R.R. Daniyel, J.H. Daviyes, J.H. Malvey, D.H. Perkins, Usp.fiz.nauk 49 no. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

1. DANIYEL, R. R.; DAVIYES, J. H.; MALVEY, J. H.; PERKINS, D. H.

2. USSR (600)

4. Mesotrons

7. High energy nuclear interactions. Part 1. Evidences of the formation of heavy measons, Usp. fiz. nauk 49 No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953. Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

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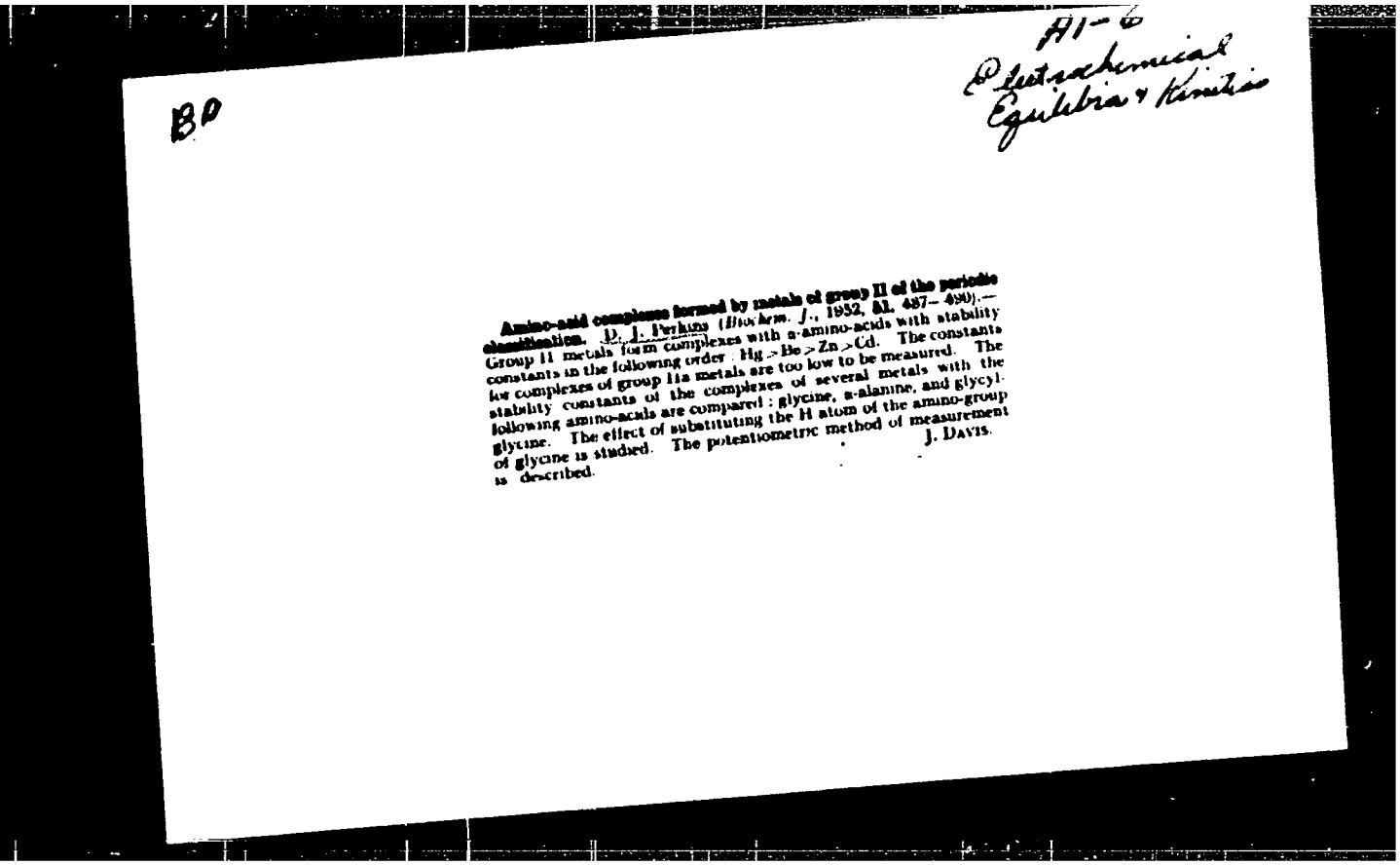

BD

AI-6
Electrochemical
Equilibria & Kinetics

Amino-acid complexes formed by metals of group II of the periodic classification. D. J. Perkins (*Biochem. J.*, 1952, **51**, 487–490).—Group II metals form complexes with α-amino-acids with stability constants in the following order: Hg > Be > Zn > Cd. The constants for complexes of group IIa metals are too low to be measured. The stability constants of the complexes of several metals with the following amino-acids are compared: glycine, α-alanine, and glycylglycine. The effect of substituting the H atom of the amino-group of glycine is studied. The potentiometric method of measurement is described. J. DAVIS.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D., inzh.

Electromagnetic inertia brakes for trolley buses. Zhil.-kom. khoz. 10 no.12:7-8 '60. (MIRA 13:12)
(Trolley buses--Brakes)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D. I.

Motorbus without a conductor. Avt. transp. 38 no. 5:10-12 My '60. (MIRA 14:2)

1. Upravleniye passazhirskogo transporta ispolkoma Mossoveta. (Motorbuses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D. I., CAND TECH SCI, "INVESTIGATION OF THE MECHANICAL BRAKE OF A TROLLEY BUS with PNEUMATIC OR ELECTRO-TECHNICAL drive." MOSCOW, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. MOSCOW ORDER OF LENIN [redacted] POWER INST).
(KL, 2-61, 211).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D. I.

Trolley buses. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 191 p. (54-37884)

TL232.P4

1. Trolley buses.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIN, D. I.

Trolleybusnyi park (Trolley bus park) Moskva, Izd-vo Ministerstva Kommunal'nogo Khozyaystva, RSFSR, 1963.
191 p. illus., tables.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D.I.

[Trolley bus park] Trolleibusnyi park. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 191 p. (MLRA 7:6)
(Trolley buses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

MARKOVNIKOV, Valerian Leonidovich; PERKIS, David Isayevich; SHPOLYANSKIY, M.E., red.; OTOCHKOVA, M.A., red.izd-va; KONYASHINA, A.D., tekhn.red.

[Trolley buses] Trolleibusy. Izd.2., perer. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1957. 238 p. (MIRA 12:6)
(Trolley buses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D.I.

Efficiency promotion in the municipal electric transportation system. Ger. khoz. Mosk. 33 no.3:34-37 Mr '59.
(MIRA 12:5)

1. Nachal'nik Tekhnicheskogo otdela Upravleniya passazhirskogo transporta Mosgorispolkoma.
(Moscow--Street railways)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

[illegible], Valerian Leontievich; [illegible], David Isayevich

[ZiU-5 trolleybus] Trolleibus ZiU-5. Moskva, Transzheldorizdat, 1964. 133 p. (MIRA 17:7)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

IVIN, K.V.; MOLODYKH, I.A.; YERMAKOV, N.D. [deceased]; MARKOVNIKOV, V.L., doktor tekhn. nauk; VATSURO, M.A. [deceased]; KRUGLOVA, L.P.; STRAKHOV, K.I.; DUL'KIN, I.A.; FAYN, A.G.; RUBINSKIY, N.V.; SPISKOV, V.S.; PERKIS, D.I., kand. tekhn. nauk; LUCHAY, G.A., retsenzent; TROFIMOV, A.N., otv. red. toma; VOLOCHNEV, V.N., red.; SHPOLYANSKIY, M.N., red.; OTOCHEVA, M.A., red.izd-va; LELYUKHIN, A.A., tekhn. red.

[Technical handbook on electric city transportation in three volumes] Tekhnicheskii spravochnik po gorodskomu elektrotransportu v trekh tomakh. Redkoll.: V.N.Volochnev, A.N.Trofimov, M.N.Shpolianskii. Moskva, Izd-vo M-va Kommun.khoz.RSFSR. Vol.3. [Trolley buses] Trolleibus. 1963. 722 p. (Trolley buses) (MIRA 16:10)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

MARKOVNIKOV, Valer'yan Leonidovich; PERKIS, David Isayevich; SHPOLYANSKIY, M.N., red.; BAIKOVSKAYA, I.Z., red.izd-va; SALAZKOV, N.P., tekhn. red.

[Textbook for trolley bus drivers] Uchebnoe posobie dlia voditelia trolleibusa. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1963. 247 p. (MIRA 16:10)

(Trolley buses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, David Isayevich; SHPOLYANSKIY, M.N., red.; RACHEVSKAYA, M.I., red.izd-va; SALAZKOV, N.P., tekhn.red.

[Repair of trolley buses; manual for mechanics] Remont trolleibusov; uchebnoe posobie dlia slesarei. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1960. 257 p. (MIRA 13:10)
(Trolley buses--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2

PERKIS, D.V.

Automatic coupling of public telephones with long-distance switching centers. Vest. sviazi 20 no.4:27-28 Ap '60. (MIRA 13:7)

1. Nachal'nik proizvodstvennoy laboratorii Saratovskoy mezhdugorodnoy telefonnoy stantsii.
(Telephone, Automatic)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240030009-2"